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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,800	05/19/2006	Shinji Mackawa	740756-2972	3488
22204 7590 10/29/2008 NIXON PEABODY, LLP 401 9TH STREET, NW SUITE 900 WASHINGTON, DC 20004-2128				
EXAMINER				
PHAM, HOAI V				
ART UNIT		PAPER NUMBER		
2892				
MAIL DATE		DELIVERY MODE		
10/29/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/579,800

**Applicant(s)**

MAEKAWA ET AL.

**Examiner**

Hoai v. Pham

**Art Unit**

2892

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 19-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/IS/C)
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date 5/18/06; 5/16/08

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election without traverse of claims 1-18 in the reply filed on 8/21/2008 is acknowledged.

***Drawings***

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitation "etching the first semiconductor film using the source electrode and the drain electrode as masks" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

***Claim Rejections - 35 USC § 112***

4. Claims 9-18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 9 and 13, the limitation "etching the first semiconductor film using the source electrode and the drain electrode as masks" is not described in the specification and shown in the drawing.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Maekawa et al. [US 7,365,805].

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

With respect to claim 1, Maekawa et al. (figs. 4-9, cols. 9-18) disclose a method for manufacturing a semiconductor device comprising:

forming a first conductive film pattern (202) by discharging a conductive material containing a photosensitive material over an insulating surface of a substrate (100) by droplet discharging;

selectively exposing the first conductive film pattern to laser light (col. 11, lines 5-30); and

forming a second conductive film pattern (203) by developing the exposed first conductive film pattern.

With respect to claim 2, Maekawa et al. (col. 10, lines 11-18) disclose the conductive material containing a photosensitive material comprises a material selected from the group consisting of Ag, Au, Cu, Ni, Al or Pt, and a compound thereof.

With respect to claims 3-4, Maekawa et al. (col. 10, lines 11-18) disclose the photosensitive material (silver halide) is a negative type photosensitive material or a positive type photosensitive material.

With respect to claim 5, Maekawa et al. (figs. 4-9, cols. 9-18) disclose a method for manufacturing a semiconductor device comprising:

forming a first conductive film pattern (202) by discharging a conductive material containing a photosensitive material over an insulating surface of a substrate by droplet discharging;

selectively exposing the first conductive film pattern to laser light (col. 11, lines 5-30);

forming a second conductive film pattern (203) having a narrower width than that of the first conductive film pattern by developing the exposed first conductive film pattern;

forming a gate insulating film (212-214) covering the second conductive film pattern; and

forming a semiconductor film (215) over the gate insulating film.

With respect to claim 6, Maekawa et al. (col. 10, lines 11-18) disclose the conductive material containing a photosensitive material comprises a material selected from the group consisting of Ag, Au, Cu, Ni, Al or Pt, and a compound thereof.

With respect to claims 7-8, Maekawa et al. (col. 10, lines 11-18) disclose the photosensitive material (silver halide) is a negative type photosensitive material or a positive type photosensitive material.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa et al. [JP 2000258921] in view of Furuse et al. [US 2002/0012868].

Ishikawa et al. (fig. 1 and the abstract) disclose a method for manufacturing a semiconductor device comprising:

forming a first conductive film pattern (102) by discharging a conductive material containing a photosensitive material over an insulating surface of a substrate (101);  
selectively exposing the first conductive film pattern to laser light (105); and  
forming a second conductive film pattern (107) by developing the exposed first conductive film pattern.

Ishikawa et al. do not disclose the conductive film formed by droplet discharging. However, Furuse et al. discloses that the conductive film formed by droplet discharging is a known technique (see pp [0036]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to select the known method of droplet discharging as taught by Furuse et al. into the process of Ishikawa et al. to form the conductive film.

10. Claims 5-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asano [JP 6061257] in view of Furuse et al. [US 2002/0012868] and Ishikawa et al. [JP 2000258921].

Asano (fig. 2 and the abstract) discloses a method for manufacturing a semiconductor device comprising:

forming a gate electrode (2) over an insulating surface of a substrate (1);



forming a gate insulating film (3) covering the gate electrode;  
forming a first semiconductor film (4) over the gate insulating film;  
forming a source electrode (6S) and a drain electrode (6d) by developing the exposed first conductive film pattern.

Asano fails to disclose forming a first conductive film pattern by discharging a conductive material containing a positive type or negative type photosensitive materials and exposing a selected portion of the first conductive film pattern to laser light. However, Ishikawa et al. (fig. 1 and the abstract) disclose forming a conductive film pattern (102) by discharging a conductive material containing a photosensitive material over an insulating surface of a substrate (101) and selectively exposing the conductive film pattern to laser light (105). Furuse et al. discloses that the conductive film formed by droplet discharging is a known technique (see pp [0036]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to select the known method of droplet discharging and exposing the conductive film pattern to laser light as taught by Ishikawa et al. and Furuse et al. into the process of Asano to form the conductive film.

### ***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoai v. Pham whose telephone number is 571-272-1715. The examiner can normally be reached on M-F.

12. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thao Xuan Le can be reached on 571-272-1708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hoai v Pham/  
Primary Examiner, Art Unit 2892